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10 September 2020

Mr. Brian Mattson
Panattoni Development Company, Inc.
1821 Dock Street, Suite 100
Tacoma, WA 98402

Re: Acoustical Analysis at Receptor of Concern
Proposed Delivery Station
Maple Valley, WA
OAA File 4252A

Dear Mr. Mattson:

As requested Ostergaard Acoustical Associates (OAA) has prepared this acoustical report letter to provide specific results for a receptor of concern. Specifically, there have been concerns raised by the Habernicht Residence located at 23620 225th Avenue SE, located south of the proposed delivery station.

As you are aware, a new delivery station is proposed south of the intersection of Witte Road SE and SE 231st Street in Maple Valley. The site currently comprises a defunct mining operation adjacent to commercial uses and single-family residences. The site and surrounding area contain drastic elevation changes, upwards of 100 feet in all directions, which has a significant effect on site sound emissions. Commercial uses are primarily to the northwest of the site, along State Route 18, while single-family residences are nearby the site in the remaining directions. Plans call for the construction of a delivery station at the base elevation of the site with truck docks along the southeast façade facing residences. However, the steep elevation change between the site and receptors is expected to provide substantial shielding in most directions. All vehicular traffic, including delivery and personnel vehicles and heavy trucks, will enter and exit the site from the west via 228th Avenue South. The site is anticipated to primarily operate during the daytime hours with intermittent heavy trucks arrivals and departures occurring during the nighttime hours.

Site sound emissions from this facility are regulated by state, county, and local noise codes. The Maple Valley code adopts the King County Environmental Sound Levels which match the State code limits. Washington State regulates noise by source and receiving land use. Class C land uses, such as this site, are nominally non-sensitive uses. Class B land uses are potentially noise-sensitive such as offices; Class A land uses include residences and other noise sensitive receptors.

For sound propagating from a Class C land use to a Class A land use maximum sound emissions are limited to 60 dB(A) during the daytime hours of 0700-to-2200 and 50 dB(A) during the nighttime hours of 2200-to-0700. The State also provides corrections to these limits based on the duration of the sound. If a source occurs for 15 minutes or less of any hour, the limits above may be increased by 5 dB(A). If the sound is for 5 minutes or less, the limit is increased by 10 dB(A); if it is 1 ½ minutes or less, the limit is increased by 15 dB(A).

Since only two line-haul trucks are anticipated on site in a given hour, the 5 dB(A) correction in the State code may be conservatively used. Given this, site sound emissions should be limited to 55 dB(A) at nearby noise sensitive receptors to comply with applicable limits. Personal and delivery motor vehicles should comply with 50 dB(A) at residences.

Detailed acoustical analyses were carried out for the Habernicht Residence. A three-dimensional model was created of the site to take into account the dynamic geometry between noise sources and this receptor. Sound sources were projected from worst-case locations to the receptor vantage point. The following source conditions were analyzed:

- Twelve rooftop units (i.e., HVAC) each having a sound power level of 93 dB(A) re 1 picowatt

- Fifty-six personal and delivery vehicles all operating at a maximum sound level of 59 dB(A) at 50 feet. This typifies a worst-case condition over a 10-minute period.

- A single line-haul truck maximum sound at a level of 79 dB(A) at 50 feet. This typifies potential high sound levels that may occur from truck activity.

Results from these conditions are summarized at the window of the Habernicht Residence in the following table.

	Condition:		
	HVAC	**Personal and Delivery Vehicles**	**Truck Activity**
Modelled sound emissions at the Habernicht Residence	40 dB(A)	38 dB(A)	33-to-42 dB(A)

Based on results of these analyses, site sound emissions are expected to meet State code limits at the Habernicht Residence. Further, given results of this magnitude, there is no acoustical impact or concern expected from daytime delivery operations, which is the bulk of the site's activity, or nighttime activity. Occasional truck operations at night will comply with code by margins of 13 dB. In conclusion, given the results of the analyses above site sound emissions are expected to have no negative acoustical impact on the Habernicht Residence from on-site operations.

Sincerely,

OSTERGAARD ACOUSTICAL ASSOCIATES

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BCM:amc